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July to September 1990  
**EMPLOYER TRAINING  
EXPENDITURE  
AUSTRALIA**







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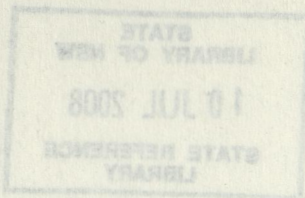
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# EMPLOYER TRAINING EXPENDITURE AUSTRALIA JULY TO SEPTEMBER 1990

IAN CASTLES  
Australian Statistician





SHAWGOLD UNIT 1130 AVE 20 MAY 1981

EMPLOYER TRAINING EXPENDITURE  
AUSTRALIA  
JULY TO SEPTEMBER 1990

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AUSTRALIAN BUREAU OF STATISTICS



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INQUIRIES	<ul style="list-style-type: none"> <li>• for further information about statistics in this publication and the availability of related unpublished statistics, contact Mr Robert McCombe on Canberra (06) 252 6660 or any ABS State Office.</li> <li>• for information about other ABS statistics and services please refer to the back page of this publication.</li> </ul>	



## SUMMARY OF FINDINGS

### Introduction

This publication presents results of the 1990 Training Expenditure Survey. This survey follows a smaller Training Expenditure Survey conducted in 1989. Results of the 1989 survey were published in *Employer Training Expenditure, Australia, 1989* (ABS Catalogue No. 6353.0). Although both surveys were conducted using a similar methodology, users should be aware when making detailed comparisons that all figures are estimates. For further details see the Explanatory Notes (paragraphs 6 and 7) and the Technical Note.

### Overview

It is estimated that overall, Australian employers spent the equivalent of 2.6 per cent of gross wages and salaries on the formal training of their employees during the period 1 July to 30 September 1990. Average expenditure reported on formal training was \$163 per employee. Employees received an average of 5.9 hours of formal training over the three months. By comparison, during the period 1 July to 30 September 1989, training expenditure was estimated to be 2.2 per cent of gross wages and salaries, \$133 was spent per employee and employees received an average of 5.7 hours training.

### Employers reporting training expenditure

Overall, 24 per cent of all employers reported some training expenditure (compared to 22% in 1989). An average of \$206 per employee was spent by these employers and 7.5 hours of formal training was received per employee. This represents an average expenditure of \$28 per training hour.

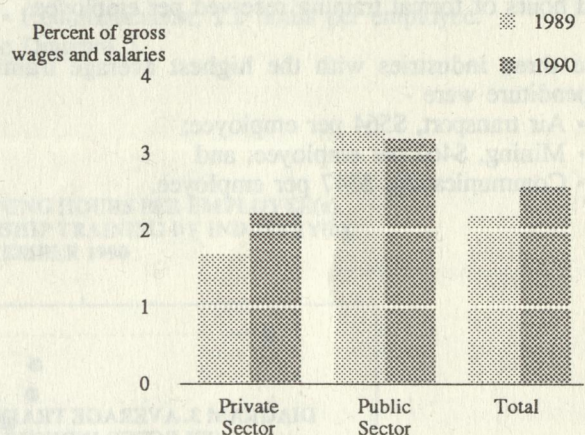
### Sector

During the 1990 survey period, private sector employers overall spent the equivalent of 2.2 per cent of gross wages and salaries on the formal training of their employees. Private sector employers spent an average of \$132 per employee and employees received an average of 5.0 hours of formal training. In the public sector, employers spent the equivalent of 3.2 per cent of gross wages and salaries

overall, an average of \$230, and 8.1 hours of formal training per employee for the three month period.

By comparison, in 1989, private sector employers spent the equivalent of 1.7 per cent of gross wages and salaries on the formal training of their employees and public sector employers spent the equivalent of 3.3 per cent. See Diagram 1.

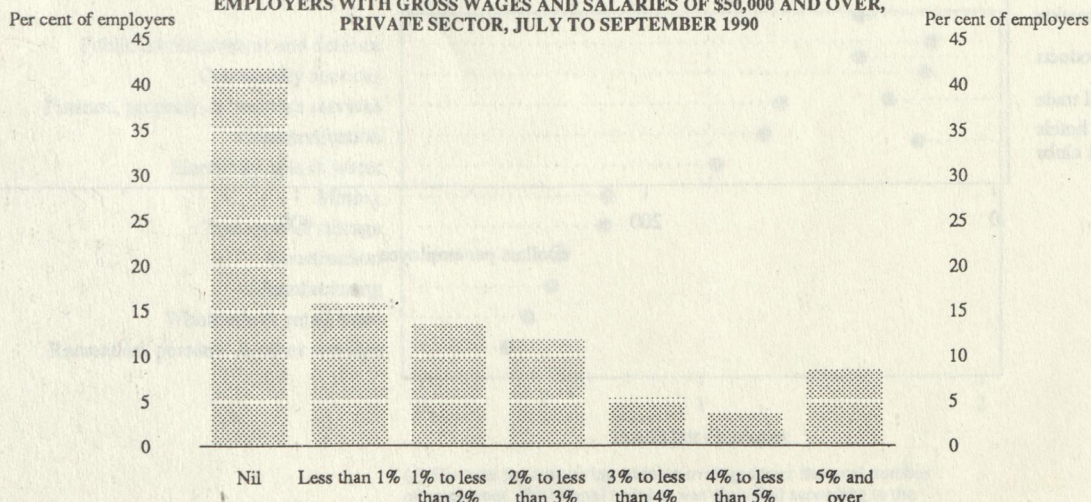
DIAGRAM 1. AVERAGE TRAINING EXPENDITURE - ALL EMPLOYERS BY SECTOR, JULY TO SEPTEMBER 1989 AND 1990



### Payroll size

Employers in the private sector with gross wages and salaries of \$50,000 and over for the period 1 July to 30 September 1990 (ie gross wages and salaries of at least \$200,000 per annum) spent an average of 2.4 per cent of gross wages and salaries on formal training. An estimated 58 per cent of these private sector employers reported some training expenditure (compared to 42 per cent in the September quarter 1989). In 1990, 43 per cent reported training expenditure of at least 1 per cent of gross wages and salaries, and 8 per cent reported 5 per cent or more. See Diagram 2 and Table 10.

DIAGRAM 2. DISTRIBUTION OF TRAINING EXPENDITURE - ALL EMPLOYERS WITH GROSS WAGES AND SALARIES OF \$50,000 AND OVER, PRIVATE SECTOR, JULY TO SEPTEMBER 1990





### In-house and external training

In the 1990 survey period, formal in-house training accounted for approximately 70 per cent of training expenditure, \$112 per employee compared to \$51 per employee for formal external training. Employees received an average of 3.6 hours of formal in-house training and 2.3 hours of formal external training. Formal in-house training was more expensive than formal external training, costing \$31 per hour compared to \$22 per hour for external training.

### Industry

Industry comparisons vary according to the measure used - see Tables 5 to 8. Comparisons shown below focus on the overall averages of training expenditure per employee and hours of formal training received per employee.

The three industries with the highest average training expenditure were -

- Air transport, \$564 per employee;
- Mining, \$462 per employee; and
- Communication, \$347 per employee.

The three industries with the lowest average training expenditure were -

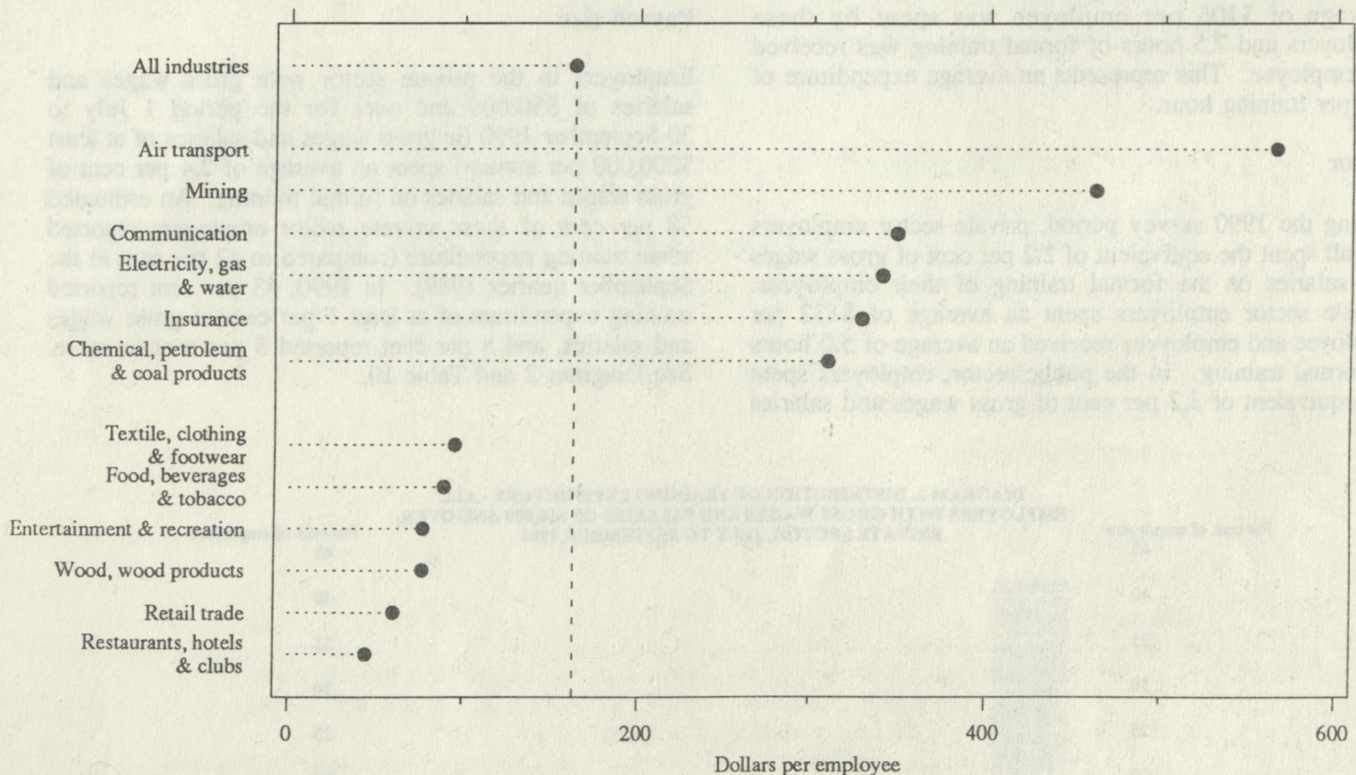
- Restaurants, hotels and clubs, \$44 per employee;
- Retail trade, \$61 per employee; and
- Wood, wood products manufacture, \$77 per employee.

Diagram 3 shows the six highest and six lowest industries for training expenditure per employee. Industries not shown all spent between \$100 and \$300 per employee, see Table 6.

By comparison, average training hours per employee were the highest in the Transport equipment manufacturing industry, 16.8 hours and in the Personal services industry, 12.8 hours. The Entertainment and recreation industry reported the least amount of training at 1.9 hours per employee for the three month period.

Training costs per training hour varied considerably across industry from \$11 per hour in the Personal services industry up to \$77 in Air transport.

DIAGRAM 3. AVERAGE TRAINING EXPENDITURE - ALL EMPLOYERS, SELECTED INDUSTRIES, JULY TO SEPTEMBER 1990





## Fields of training

Comparisons in this section focus on training hours per employee (ie the estimated total number of hours of training received divided by the estimated total number of employees).

Formal Trade and apprenticeship training accounted for 27 per cent of all training, with an average of 1.6 hours per employee. The next highest were Management and professional training with an average of 1 hour and 0.9 hours per employee, respectively.

In the private sector Trade and apprenticeship training accounted for almost 40 per cent of all training, averaging 1.9 hours per employee.

In the public sector, the two highest fields of training were Technical and para-professional, 2.2 hours per employee and Management and professional training, 1.8 hours per employee.

The highest levels of Trade and apprenticeship training were recorded in the following industries -

- Construction, 6.7 hours on average per employee;
- Electricity, gas and water, 3.3 hours per employee;
- Manufacturing, 3.3 hours per employee; and
- Mining, 2.9 hours per employee.

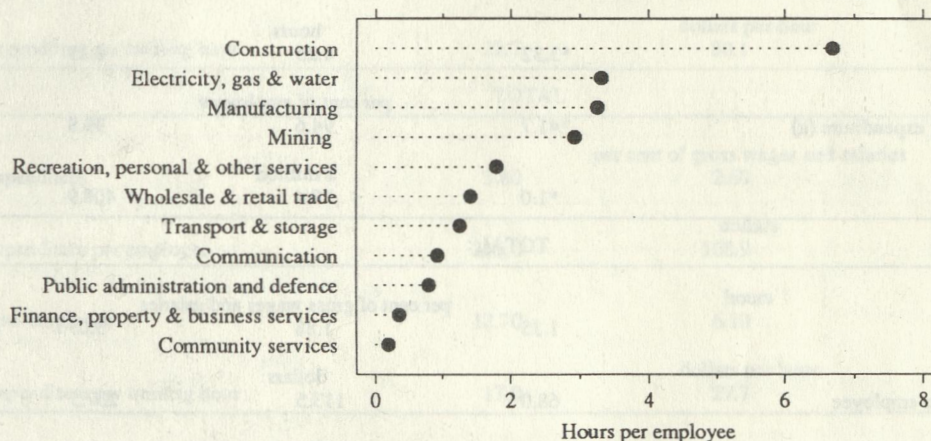
See Diagram 4.

The highest levels of Management and professional training were recorded in the following industries -

- Public administration and defence, 1.8 hours per employee;
- Community services, 1.8 hours per employee;
- Finance, property and business services, 1.3 hours per employee; and
- Communication, 1.2 hours per employee.

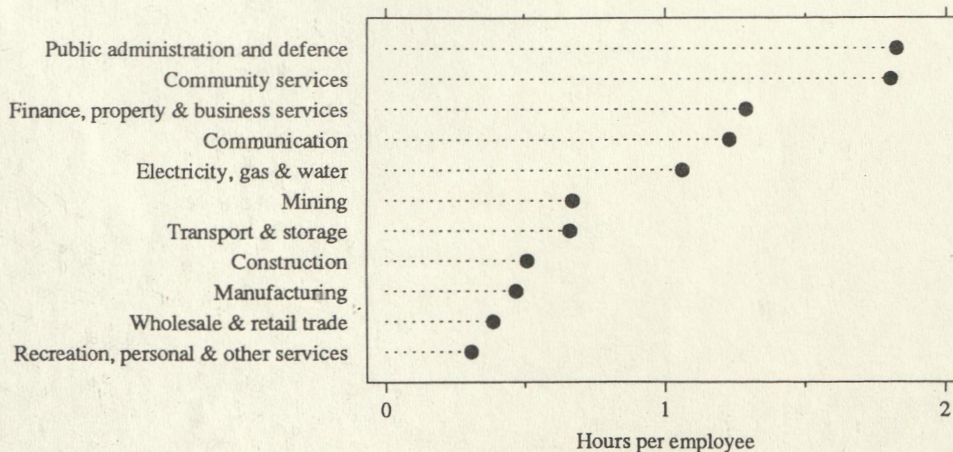
See Diagram 5.

**DIAGRAM 4. AVERAGE PAID TRAINING HOURS PER EMPLOYEE(a), FORMAL TRADE AND APPRENTICESHIP TRAINING BY INDUSTRY(b), JULY TO SEPTEMBER 1990**



(a) The total time receiving training averaged over the total number of employees. (b) Formal training was classified according to the main content of the course or program.

**DIAGRAM 5. AVERAGE PAID TRAINING HOURS PER EMPLOYEE(a), FORMAL MANAGEMENT AND PROFESSIONAL TRAINING BY INDUSTRY(b), JULY TO SEPTEMBER 1990**



(a) The total time receiving training averaged over the total number of employees. (b) Formal training was classified according to the main content of the course or program.



TABLE 1. AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS,  
SECTOR BY EMPLOYER SIZE, JULY TO SEPTEMBER 1990

	1 - 19 employees	20 - 99 employees	100 or more employees	Total
PRIVATE				
Total training expenditure	1.35	per cent of gross wages and salaries 1.89	2.79	2.22
Total training expenditure per employee	67.9	dollars 112.5	181.8	132.1
Training hours per employee	4.00	hours 4.09	5.97	4.95
Employers reporting training expenditure (a)	18.3	per cent of employers 62.8	91.9	23.6
Total training expenditure	78.0	\$ million 108.2	338.4	524.7
PUBLIC				
Total training expenditure	*1.63	per cent of gross wages and salaries 1.81	3.25	3.19
Total training expenditure per employee	*75.5	dollars 127.9	234.9	229.9
Training hours per employee	*3.32	hours 4.25	8.23	8.05
Employers reporting training expenditure (a)	*41.7	per cent of employers 94.6	99.8	72.7
Total training expenditure	*1.0	\$ million *8.4	408.9	418.3
TOTAL				
Total training expenditure	1.35	per cent of gross wages and salaries 1.88	3.03	2.57
Total training expenditure per employee	68.0	dollars 113.5	207.5	162.8
Training hours per employee	3.99	hours 4.10	7.06	5.92
Employers reporting training expenditure (a)	18.5	per cent of employers 64.3	93.7	24.4
Total training expenditure	78.9	\$ million 116.7	747.3	942.9

(a) The percentage of employers is based on the statistical unit for the survey (see Explanatory Notes, paragraphs 8 and 9).



TABLE 2. AVERAGE TRAINING EXPENDITURE — EMPLOYERS REPORTING TRAINING EXPENDITURE,  
SECTOR BY EMPLOYER SIZE, JULY TO SEPTEMBER 1990

	1 - 19 employees	20 - 99 employees	100 or more employees	Total
PRIVATE				
Total training expenditure	3.83	per cent of gross wages and salaries 2.69	2.90	2.96
Total training expenditure per employee	218.2	dollars 172.6	188.8	188.9
Training hours per employee	12.86	hours 6.27	6.21	7.08
Total training expenditure per training hour	17.0	dollars per hour 27.5	30.4	26.7
PUBLIC				
Total training expenditure	*2.30	per cent of gross wages and salaries 1.84	3.25	3.20
Total training expenditure per employee	*121.5	dollars 132.2	235.0	230.9
Training hours per employee	*5.35	hours 4.39	8.23	8.08
Total training expenditure per training hour	22.7	dollars per hour 30.1	28.5	28.6
TOTAL				
Total training expenditure	3.80	per cent of gross wages and salaries 2.60	3.08	3.06
Total training expenditure per employee	216.0	dollars 168.9	211.6	205.5
Training hours per employee	12.70	hours 6.10	7.20	7.47
Total training expenditure per training hour	17.0	dollars per hour 27.7	29.4	27.5



TABLE 3. AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS,  
SECTOR BY EMPLOYER PAYROLL SIZE, JULY TO SEPTEMBER 1990

	<i>less than \$50,000(a)</i>	<i>\$50,000 and over(a)</i>	<i>Total</i>
PRIVATE			
Total training expenditure	per cent of gross wages and salaries 1.22	2.38	2.22
Total training expenditure per employee	51.3	dollars 152.1	132.1
Training hours per employee	3.53	hours 5.30	4.95
Employers reporting training expenditure (b)	13.8	per cent of employers 58.3	23.6
Total training expenditure	40.5	\$ million 484.2	524.7
PUBLIC			
Total training expenditure	per cent of gross wages and salaries *2.48	3.20	3.19
Total training expenditure per employee	*91.4	dollars 230.4	229.9
Training hours per employee	*2.88	hours 8.07	8.05
Employers reporting training expenditure (b)	*34.3	per cent of employers 94.0	72.7
Total training expenditure	*0.6	\$ million 417.7	418.3
TOTAL			
Total training expenditure	per cent of gross wages and salaries 1.23	2.70	2.57
Total training expenditure per employee	51.6	dollars 180.5	162.8
Training hours per employee	3.52	hours 6.30	5.92
Employers reporting training expenditure (b)	14.0	per cent of employers 60.0	24.4
Total training expenditure	41.1	\$ million 901.9	942.9

(a) This is the equivalent of \$200,000 for the full year. (b) The percentage of employers is based on the statistical unit for the survey (see Explanatory Notes, paragraphs 8 and 9).



TABLE 4. AVERAGE TRAINING EXPENDITURE — EMPLOYERS REPORTING TRAINING EXPENDITURE,  
SECTOR BY EMPLOYER PAYROLL SIZE, JULY TO SEPTEMBER 1990

	less than \$50,000(a)	\$50,000 and over(a)	Total
PRIVATE			
Total training expenditure	5.52	per cent of gross wages and salaries 2.85	2.96
Total training expenditure per employee	239.6	dollars 185.7	188.9
Training hours per employee	16.46	hours 6.47	7.08
Total training expenditure per training hour	14.6	dollars per hour 28.7	26.7
PUBLIC			
Total training expenditure	*4.11	per cent of gross wages and salaries 3.20	3.20
Total training expenditure per employee	*169.4	dollars 231.0	230.9
Training hours per employee	*5.34	hours 8.09	8.08
Total training expenditure per training hour	31.7	dollars per hour 28.6	28.6
TOTAL			
Total training expenditure	5.49	per cent of gross wages and salaries 3.00	3.06
Total training expenditure per employee	238.2	dollars 204.2	205.5
Training hours per employee	16.24	hours 7.13	7.47
Total training expenditure per training hour	14.7	dollars per hour 28.6	27.5

(a) This is the equivalent of \$200,000 for the full year.



TABLE 5. AVERAGE TRAINING EXPENDITURE AS A PERCENTAGE OF GROSS WAGES AND SALARIES — ALL EMPLOYERS, SECTOR BY INDUSTRY, JULY TO SEPTEMBER 1990

Industry	Private			Total		
	In-house	External	Total	In-house	External	Total
per cent of gross wages and salaries						
Mining	2.7	1.3	4.0	2.7	1.3	4.0
Manufacturing	1.3	0.7	2.0	1.4	0.7	2.1
Food, beverages and tobacco	0.8	0.5	1.3	0.8	0.5	1.3
Textiles, clothing and footwear	1.2	0.4	1.6	1.2	0.4	1.6
Wood, wood products	*0.5	0.7	1.2	*0.5	0.7	1.3
Paper, paper products	1.5	0.8	2.3	1.5	0.8	2.3
Chemical, petroleum and coal products	2.6	0.9	3.5	2.6	0.9	3.5
Non metallic mineral products	0.7	0.7	1.4	0.7	0.7	1.4
Basic metal products	2.4	0.9	3.4	2.4	0.9	3.4
Fabricated metal, machinery and equipment	0.9	0.8	1.7	1.0	0.8	1.8
Transport equipment	2.4	1.0	3.4	2.8	1.0	3.8
Miscellaneous manufacturing	*1.0	*0.5	1.5	*1.0	*0.5	1.5
Electricity, gas and water	2.6	1.0	3.7	2.9	1.2	4.1
Construction	0.5	1.2	1.7	0.8	1.1	1.9
Non building construction	0.5	0.5	1.0	1.2	0.5	1.8
Other construction	0.5	1.3	1.8	0.7	1.3	2.0
Wholesale and retail trade	1.3	0.6	1.9	1.3	0.6	1.9
Wholesale trade	1.6	0.8	2.4	1.6	0.8	2.4
Retail trade	1.0	0.5	1.5	1.0	0.5	1.5
Transport and storage	1.5	0.5	2.0	2.2	0.4	2.7
Air transport	3.1	0.3	3.4	5.6	0.2	5.8
Other transport and storage	1.2	0.6	1.8	1.5	0.5	2.0
Communication	1.1	1.1	2.1	3.6	0.7	4.3
Finance, property and business services	2.2	1.0	3.3	2.2	0.9	3.1
Finance	3.4	0.9	4.3	3.5	0.8	4.3
Insurance	2.8	*1.5	4.3	2.8	*1.4	4.3
Property and business services	1.4	1.0	2.5	1.3	0.9	2.2
Public administration and defence	..	..	..	2.1	1.2	3.3
Community services	1.2	0.6	1.8	1.8	0.7	2.6
Health	0.8	0.3	1.2	1.5	0.5	2.0
Other community services	1.7	1.0	2.7	2.1	0.8	2.9
Recreational, personal and other services	0.7	0.7	1.4	0.9	0.6	1.5
Entertainment and recreation	0.4	*0.2	0.7	*1.0	*0.3	1.4
Restaurants, hotels and clubs	0.7	*0.5	1.2	0.7	*0.5	1.2
Personal services	*1.3	2.0	3.4	*1.3	2.0	3.3
All industries	1.4	0.8	2.2	1.8	0.8	2.6



TABLE 6. AVERAGE TRAINING EXPENDITURE PER EMPLOYEE — ALL EMPLOYERS,  
SECTOR BY INDUSTRY, JULY TO SEPTEMBER 1990

Industry	Private			Total		
	In-house	External	Total	In-house	External	Total
dollars per employee						
Mining	310.5	153.7	464.2	313.3	148.8	462.1
Manufacturing	92.1	50.7	142.8	97.6	51.3	148.8
Food, beverages and tobacco	53.3	35.8	89.1	54.2	34.9	89.1
Textiles, clothing and footwear	72.6	23.1	95.7	72.1	23.2	95.3
Wood, wood products	*31.4	43.5	74.9	*33.1	43.4	76.5
Paper, paper products	*110.9	59.8	170.8	*110.7	60.5	171.2
Chemical, petroleum and coal products	229.5	82.0	311.5	226.6	83.0	309.6
Non metallic mineral products	53.2	50.7	103.9	53.2	50.7	103.9
Basic metal products	208.1	81.0	289.1	207.8	81.0	288.8
Fabricated metal, machinery and equipment	61.8	51.4	113.2	66.0	51.8	117.9
Transport equipment	172.1	70.4	242.4	203.0	72.9	275.9
Miscellaneous manufacturing	68.8	31.4	100.2	68.8	31.4	100.2
Electricity, gas and water	226.8	89.2	316.1	241.8	97.6	339.5
Construction	35.5	85.1	120.6	57.6	82.7	140.3
Non building construction	45.4	40.9	86.3	97.8	41.9	139.7
Other construction	34.3	90.6	124.9	46.4	94.1	140.4
Wholesale and retail trade	63.4	29.9	93.3	63.3	29.9	93.2
Wholesale trade	110.4	52.3	162.7	109.8	52.1	162.0
Retail trade	41.2	19.4	60.6	41.2	19.4	60.6
Transport and storage	115.4	41.4	156.8	178.5	35.4	213.9
Air transport	286.1	28.1	314.1	545.3	18.9	564.3
Other transport and storage	91.9	43.3	135.1	113.7	38.3	152.0
Communication	73.7	73.7	147.4	292.0	55.4	347.3
Finance, property and business services	152.6	70.9	223.5	150.7	65.4	216.1
Finance	240.5	62.9	303.4	235.7	56.4	292.0
Insurance	217.5	*112.5	330.0	217.3	*111.0	328.2
Property and business services	94.6	67.1	161.6	89.2	63.2	152.4
Public administration and defence	..	..	..	149.5	83.5	233.0
Community services	63.0	32.5	95.5	112.7	44.6	157.2
Health	*44.1	*17.6	*61.7	89.0	33.2	122.2
Other community services	86.3	50.9	137.2	128.2	52.0	180.2
Recreational, personal and other services	28.0	26.2	54.3	38.0	26.5	64.5
Entertainment and recreation	18.1	9.3	27.5	*58.3	18.6	76.8
Restaurants, hotels and clubs	25.2	*19.2	44.4	25.2	*19.0	44.2
Personal services	*58.2	90.3	148.6	*57.4	88.7	146.1
All industries	85.5	46.6	132.1	112.2	50.6	162.8



TABLE 7. AVERAGE PAID TRAINING HOURS PER EMPLOYEE (a) — ALL EMPLOYERS,  
SECTOR BY INDUSTRY, JULY TO SEPTEMBER 1990

Industry	Private			Total		
	In-house	External	Total	In-house	External	Total
hours per employee						
Mining	7.5	3.1	10.7	7.6	3.1	10.7
Manufacturing	3.6	2.6	6.2	4.0	2.7	6.7
Food, beverages and tobacco	2.0	1.4	3.3	2.1	1.4	3.5
Textiles, clothing and footwear	3.2	0.9	4.2	3.2	0.9	4.1
Wood, wood products	*1.1	*3.8	*4.9	*1.2	*3.8	*4.9
Paper, paper products	*4.4	3.9	8.3	*4.5	3.9	8.4
Chemical, petroleum and coal products	*6.3	1.9	8.2	*6.1	2.2	8.3
Non metallic mineral products	1.8	*2.5	4.3	1.8	*2.5	4.3
Basic metal products	8.0	3.0	11.0	7.9	3.0	10.9
Fabricated metal, machinery and equipment	1.8	2.9	4.8	2.1	3.0	5.0
Transport equipment	10.6	4.4	15.0	12.2	4.6	16.8
Miscellaneous manufacturing	*2.3	1.0	3.3	*2.3	1.0	3.3
Electricity, gas and water	6.6	3.6	10.3	7.0	3.4	10.5
Construction	1.1	8.4	9.5	1.8	7.3	9.0
Non building construction	1.2	*1.8	3.0	3.0	1.6	4.6
Other construction	1.1	9.2	10.3	1.4	8.8	10.3
Wholesale and retail trade	2.1	1.8	3.9	2.1	1.8	3.9
Wholesale trade	2.8	2.0	4.7	2.7	1.9	4.7
Retail trade	1.8	*1.7	3.5	1.8	*1.7	3.5
Transport and storage	3.5	1.5	5.0	5.1	1.6	6.6
Air transport	5.9	0.9	6.9	6.8	0.5	7.4
Other transport and storage	3.2	1.5	4.7	4.7	1.7	6.5
Communication	*1.8	1.5	3.3	9.0	1.8	10.8
Finance, property and business services	3.5	1.4	4.9	3.7	1.3	5.0
Finance	5.4	1.5	6.8	5.9	1.2	7.1
Insurance	4.2	*1.9	6.1	4.1	*1.9	6.0
Property and business services	2.5	1.2	3.7	2.3	1.2	3.5
Public administration and defence	..	..	..	3.9	3.4	7.2
Community services	2.0	1.3	3.3	4.2	2.0	6.1
Health	*1.6	*0.7	*2.2	3.3	1.6	4.8
Other community services	2.4	2.2	4.6	4.8	2.2	7.0
Recreational, personal and other services	1.5	2.3	3.7	1.5	2.0	3.6
Entertainment and recreation	*0.8	*0.4	*1.2	*1.3	0.6	1.9
Restaurants, hotels and clubs	*1.4	1.4	2.7	1.4	1.3	2.7
Personal services	*3.0	10.0	13.1	*3.0	9.8	12.8
All industries	2.7	2.2	4.9	3.6	2.3	5.9

(a) The total time receiving formal training averaged over the total number of employees.



TABLE 8. AVERAGE TRAINING EXPENDITURE PER TRAINING HOUR, ALL EMPLOYERS, SECTOR BY INDUSTRY, JULY TO SEPTEMBER 1990

Industry	Private			Total		
	In-house	External	Total	In-house	External	Total
dollars per hour						
Mining	41.3	49.1	43.6	41.0	48.5	43.2
Manufacturing	25.4	19.4	22.9	24.5	19.2	22.4
Food, beverages and tobacco	27.3	25.8	26.7	25.3	25.5	25.4
Textiles, clothing and footwear	22.5	24.9	23.0	22.5	24.9	23.0
Wood, wood products	27.3	11.5	15.2	28.2	11.5	15.5
Paper, paper products	25.0	15.4	20.5	24.7	15.4	20.3
Chemical, petroleum and coal products	36.5	42.5	37.9	37.0	38.5	37.4
Non metallic mineral products	30.3	20.1	24.3	30.3	20.1	24.3
Basic metal products	26.2	27.0	26.4	26.2	27.0	26.4
Fabricated metal, machinery and equipment	33.7	17.4	23.7	32.1	17.5	23.5
Transport equipment	16.2	16.1	16.2	16.6	15.8	16.4
Miscellaneous manufacturing	30.2	31.0	30.4	30.2	31.0	30.4
Electricity, gas and water	34.2	24.5	30.8	34.4	28.6	32.5
Construction	32.0	10.2	12.7	32.8	11.4	15.6
Non building construction	36.8	22.7	28.5	33.0	26.0	30.5
Other construction	31.3	9.9	12.1	32.6	10.7	13.7
Wholesale and retail trade	30.5	16.7	24.1	30.5	16.8	24.2
Wholesale trade	40.0	26.8	34.6	40.0	26.9	34.6
Retail trade	23.5	11.3	17.5	23.5	11.3	17.5
Transport and storage	32.7	28.2	31.3	35.3	22.6	32.3
Air transport	48.1	29.6	45.5	79.7	35.6	76.5
Other transport and storage	28.7	28.0	28.5	24.0	21.9	23.4
Communication	41.2	49.0	44.8	32.4	30.4	32.1
Finance, property and business services	43.0	51.3	45.3	40.7	51.2	43.4
Finance	44.9	43.3	44.6	40.0	45.4	40.9
Insurance	51.8	58.8	54.0	52.5	59.3	54.6
Property and business services	38.0	54.0	43.3	38.3	52.7	43.2
Public administration and defence	..	..	..	38.8	24.7	32.2
Community services	32.1	24.3	28.9	27.1	22.6	25.7
Health	27.9	26.6	27.5	27.3	21.1	25.3
Other community services	35.3	23.5	29.8	27.0	23.4	25.8
Recreational, personal and other services	19.1	11.6	14.6	25.0	13.0	18.1
Entertainment and recreation	*23.1	*23.8	23.4	*45.2	31.9	41.1
Restaurants, hotels and clubs	18.4	*14.1	16.3	18.4	*14.2	16.3
Personal services	19.2	9.0	11.4	19.3	9.0	11.4
All industries	31.6	20.7	26.7	31.0	21.9	27.5



TABLE 9. AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS,  
EMPLOYER PAYROLL SIZE BY INDUSTRY BY SECTOR, JULY TO SEPTEMBER 1990

	Private	Total
\$50,000 AND OVER(a)		
	per cent of gross wages and salaries	
Mining	4.1	4.0
Manufacturing	2.1	2.2
Electricity, gas and water	3.7	4.1
Construction	1.5	1.9
Wholesale and retail trade	2.2	2.2
Transport and storage	2.0	2.7
Communication	2.2	4.3
Finance, property and business services	3.5	3.3
Public administration and defence	..	3.3
Community services	2.1	2.7
Recreational, personal and other services	1.5	1.6
<i>All industries</i>	2.4	2.7
TOTAL		
	per cent of gross wages and salaries	
Mining	4.0	4.0
Manufacturing	2.0	2.1
Electricity, gas and water	3.7	4.1
Construction	1.7	1.9
Wholesale and retail trade	1.9	1.9
Transport and storage	2.0	2.7
Communication	2.1	4.3
Finance, property and business services	3.3	3.1
Public administration and defence	..	3.3
Community services	1.8	2.6
Recreational, personal and other services	1.4	1.5
<i>All industries</i>	2.2	2.6

(a) This is the equivalent of \$200,000 for the full year.

TABLE 10. DISTRIBUTION OF TRAINING EXPENDITURE — ALL EMPLOYERS WITH GROSS  
WAGES AND SALARIES OF \$50,000 AND OVER(a), SECTOR, JULY TO SEPTEMBER 1990

Training expenditure as a per cent of gross wages and salaries	Private	Total
	per cent of employers	
Nil	41.7	40.0
Less than 1%	15.8	16.3
1% to less than 2%	13.5	14.0
2% to less than 3%	11.8	12.1
3% to less than 4%	5.3	5.5
4% to less than 5%	3.5	3.8
5% and over	8.4	8.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

(a) The equivalent of \$200,000 for the full year.



TABLE 11. COMPOSITION OF AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS, SECTOR, JULY TO SEPTEMBER 1990

Components of expenditure	Private	Public	Total
dollars per employee			
Employees' wages and salaries for time receiving training	63.3	119.6	81.0
Trainers' costs (including fees)	46.7	79.9	57.2
Wages and salaries for time providing training	22.7	55.2	32.9
Fees to consultants and institutions	24.0	24.8	24.3
Other expenditure	22.0	30.4	24.6
Equipment	2.6	4.4	3.1
Travel, accommodation and meals	11.0	14.1	12.0
Training rooms	3.6	6.1	4.4
Payments to industry training bodies	*1.5	*1.7	*1.6
Other(a)	3.2	4.1	3.5
Total wages and salaries costs(b)	86.1	174.7	113.9
Total costs other than wages and salaries(c)	46.0	55.2	48.9
Total training expenditure	132.1	229.9	162.8
Training subsidies received	*6.9	5.0	*6.3
Net training expenditure	125.1	225.0	156.5

(a) Materials, books, computer based training packages, printing, etc. (b) Employees' gross wages and salaries for time receiving and providing training. (c) Fees to consultants and institutions, and *Other expenditure*.

TABLE 12. IN-HOUSE AND EXTERNAL AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS, SECTOR, JULY TO SEPTEMBER 1990

	Private	Public Trading	Public Non-trading	Total Public	Total
per cent of gross wages and salaries					
Total wages and salaries costs(a)	1.4	2.7	2.3	2.4	1.8
In-house	1.0	2.4	1.7	1.9	1.3
External	0.4	0.3	0.6	0.5	0.5
Total costs other than wages and salaries(b)	0.8	1.0	0.7	0.8	0.8
In-house	0.4	0.7	0.4	0.5	0.4
External	0.4	0.3	0.3	0.3	0.3
Total in-house	1.4	3.1	2.1	2.4	1.8
Total external	0.8	0.6	0.9	0.8	0.8
Total	2.2	3.7	3.0	3.2	2.6

(a) Employees' gross wages and salaries for time receiving and providing training. (b) Fees to consultants and institutions, and *Other expenditure*.



TABLE 13. COMPOSITION OF AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS, SECTOR BY EMPLOYER SIZE, JULY TO SEPTEMBER 1990

Components of expenditure	1 - 19 employees	20 - 99 employees	100 or more employees	Total
PRIVATE				
per cent of gross wages and salaries				
Employees' wages and salaries for time receiving training	0.8	0.9	1.3	1.1
In-house training	0.3	0.4	0.9	0.6
External training	0.5	0.4	0.4	0.4
Trainers' costs (including fees)	0.4	0.7	1.0	0.8
Other expenditure	*0.2	0.4	0.5	0.4
Total wages and salaries costs(a)	1.0	1.1	1.8	1.4
Total costs other than wages and salaries(b)	0.4	0.8	1.0	0.8
Total in-house	0.6	1.0	2.0	1.4
Total external	0.7	0.9	0.8	0.8
Total	1.3	1.9	2.8	2.2
TOTAL				
per cent of gross wages and salaries				
Employees' wages and salaries for time receiving training	0.8	0.9	1.5	1.3
In-house training	0.3	0.4	1.0	0.8
External training	0.5	0.5	0.4	0.5
Trainers' costs (including fees)	0.4	0.6	1.1	0.9
Other expenditure	*0.2	0.4	0.4	0.4
Total wages and salaries costs(a)	1.0	1.1	2.2	1.8
Total costs other than wages and salaries(b)	0.4	0.8	0.9	0.8
Total in-house	0.6	1.0	2.2	1.8
Total external	0.7	0.9	0.8	0.8
Total	1.4	1.9	3.0	2.6

(a) Employees' gross wages and salaries for time receiving and providing training. (b) Fees to consultants and institutions, and Other expenditure.



TABLE 14. AVERAGE PAID TRAINING TIME PER EMPLOYEE (a) — ALL EMPLOYERS,  
FIELD OF TRAINING BY SECTOR, JULY TO SEPTEMBER 1990

Field of training(b)	In-house	External	Total
PRIVATE			
	hours per employee		
Induction	0.35	0.00	0.35
General supervision	0.23	0.05	0.29
General computing	0.24	0.13	0.37
Health and safety	0.17	0.06	0.22
Management and professional	0.32	0.28	0.60
Technical and para-professional	0.19	0.11	0.30
Trade and apprenticeship	0.43	1.43	1.86
Clerical, sales	0.42	0.10	0.52
Plant and machinery	0.24	0.03	0.27
Other	0.12	0.04	0.16
All fields	2.70	2.24	4.95
PUBLIC			
	hours per employee		
Induction	0.36	*0.01	0.36
General supervision	0.30	0.07	0.37
General computing	0.44	0.16	0.60
Health and safety	0.33	0.09	0.42
Management and professional	0.80	1.00	1.79
Technical and para-professional	1.81	0.43	2.24
Trade and apprenticeship	0.49	0.47	0.95
Clerical, sales	0.50	0.10	0.60
Plant and machinery	0.27	0.04	0.31
Other	0.32	0.08	0.40
All fields	5.60	2.45	8.05
TOTAL			
	hours per employee		
Induction	0.35	0.01	0.36
General supervision	0.25	0.06	0.31
General computing	0.30	0.14	0.44
Health and safety	0.22	0.07	0.29
Management and professional	0.47	0.51	0.98
Technical and para-professional	0.70	0.21	0.91
Trade and apprenticeship	0.45	1.13	1.58
Clerical, sales	0.44	0.10	0.54
Plant and machinery	0.25	0.03	0.28
Other	0.18	0.05	0.24
All fields	3.61	2.31	5.92

(a) The total time receiving formal training averaged over the total number of employees. (b) Formal training was classified according to the main content of the course or program.



TABLE 15. AVERAGE HOURS AND WAGES AND SALARIES FOR TIME RECEIVING TRAINING PER EMPLOYEE(a) —  
ALL EMPLOYERS, INDUSTRY BY FIELD OF TRAINING(b), JULY TO SEPTEMBER 1990

	Wages and salaries for time receiving training per employee (\$)	Hours per employee
MINING		
Induction	7.97	0.38
General supervision	21.69	0.91
General computing	9.21	0.49
Health and safety	38.43	*2.23
Management and professional	*22.36	*0.67
Technical and para-professional	10.97	0.46
Trade and apprenticeship	43.33	2.92
Clerical, sales	3.99	0.23
Plant and machinery	45.84	2.11
Other	6.88	0.30
<i>All fields</i>	<i>210.67</i>	<i>10.70</i>
MANUFACTURING		
Induction	3.39	0.29
General supervision	5.47	0.34
General computing	5.43	0.30
Health and safety	5.07	0.35
Management and professional	9.91	0.47
Technical and para-professional	7.11	0.42
Trade and apprenticeship	27.49	3.25
Clerical, sales	3.63	0.24
Plant and machinery	9.16	0.74
Other	3.51	0.25
<i>All fields</i>	<i>80.16</i>	<i>6.65</i>
ELECTRICITY, GAS AND WATER		
Induction	2.09	0.13
General supervision	10.15	0.56
General computing	16.04	0.92
Health and safety	26.32	1.71
Management and professional	25.22	1.06
Technical and para-professional	20.18	1.15
Trade and apprenticeship	38.15	3.30
Clerical, sales	7.50	0.41
Plant and machinery	11.89	0.71
Other	8.61	0.50
<i>All fields</i>	<i>166.15</i>	<i>10.45</i>
CONSTRUCTION		
Induction	1.98	0.12
General supervision	2.30	0.12
General computing	*8.35	*0.48
Health and safety	6.66	0.42
Management and professional	10.45	0.51
Technical and para-professional	4.45	0.25
Trade and apprenticeship	53.54	6.69
Clerical, sales	3.15	0.20
Plant and machinery	2.08	0.17
Other	0.79	0.04
<i>All fields</i>	<i>93.74</i>	<i>9.01</i>

See footnotes at end of table.



TABLE 15. AVERAGE HOURS AND WAGES AND SALARIES FOR TIME RECEIVING TRAINING PER EMPLOYEE(a) —  
ALL EMPLOYERS, INDUSTRY BY FIELD OF TRAINING(b), JULY TO SEPTEMBER 1990—continued

	Wages and salaries for time receiving training per employee (\$)	Hours per employee
WHOLESALE AND RETAIL TRADE		
Induction	3.38	0.33
General supervision	4.18	0.29
General computing	5.31	0.37
Health and safety	1.21	0.09
Management and professional	7.64	0.39
Technical and para-professional	2.96	0.18
Trade and apprenticeship	10.67	*1.42
Clerical, sales	7.87	0.62
Plant and machinery	0.72	0.06
Other	1.72	0.11
<i>All fields</i>	<i>45.66</i>	<i>3.86</i>
TRANSPORT AND STORAGE		
Induction	7.15	*0.61
General supervision	7.07	0.50
General computing	7.77	0.50
Health and safety	5.74	0.37
Management and professional	12.12	0.66
Technical and para-professional	22.38	0.85
Trade and apprenticeship	12.28	1.26
Clerical, sales	4.78	0.35
Plant and machinery	15.30	1.18
Other	4.13	0.34
<i>All fields</i>	<i>98.72</i>	<i>6.62</i>
COMMUNICATION		
Induction	6.57	0.63
General supervision	10.93	0.71
General computing	10.58	0.62
Health and safety	4.29	0.26
Management and professional	20.13	1.23
Technical and para-professional	58.03	3.30
Trade and apprenticeship	11.32	0.92
Clerical, sales	29.16	1.86
Plant and machinery	2.70	0.21
Other	14.11	1.09
<i>All fields</i>	<i>167.83</i>	<i>10.83</i>
FINANCE, PROPERTY AND BUSINESS SERVICES		
Induction	4.75	0.43
General supervision	4.81	0.33
General computing	10.73	0.72
Health and safety	1.44	0.11
Management and professional	26.90	1.29
Technical and para-professional	3.97	0.24
Trade and apprenticeship	*3.03	*0.36
Clerical, sales	14.78	1.23
Plant and machinery	*0.77	*0.06
Other	3.09	0.21
<i>All fields</i>	<i>74.27</i>	<i>4.98</i>

See footnotes at end of table.



TABLE 15. AVERAGE HOURS AND WAGES AND SALARIES FOR TIME RECEIVING TRAINING PER EMPLOYEE(a) —  
ALL EMPLOYERS, INDUSTRY BY FIELD OF TRAINING(b), JULY TO SEPTEMBER 1990—continued

	Wages and salaries for time receiving training per employee (\$)	Hours per employee
PUBLIC ADMINISTRATION AND DEFENCE		
Induction	3.69	0.34
General supervision	7.14	0.49
General computing	*18.65	*1.17
Health and safety	5.23	0.41
Management and professional	30.83	1.82
Technical and para-professional	7.89	0.55
Trade and apprenticeship	*5.83	*0.79
Clerical, sales	10.56	0.80
Plant and machinery	*2.39	*0.17
Other	10.51	0.70
All fields	102.71	7.24
COMMUNITY SERVICES		
Induction	5.29	0.36
General supervision	3.42	0.19
General computing	4.95	0.31
Health and safety	3.48	0.24
Management and professional	35.80	1.80
Technical and para-professional	31.63	2.46
Trade and apprenticeship	1.69	0.20
Clerical, sales	4.39	0.35
Plant and machinery	0.64	0.06
Other	2.87	0.16
All fields	94.17	6.13
RECREATIONAL, PERSONAL AND OTHER SERVICES		
Induction	*4.20	*0.44
General supervision	2.17	0.21
General computing	*1.67	0.12
Health and safety	0.85	0.07
Management and professional	4.97	0.31
Technical and para-professional	*2.25	*0.13
Trade and apprenticeship	10.89	1.80
Clerical, sales	*3.28	*0.31
Plant and machinery	*0.44	*0.04
Other	*1.56	*0.14
All fields	32.28	3.56
ALL INDUSTRIES		
Induction	4.29	0.36
General supervision	4.92	0.31
General computing	7.06	0.44
Health and safety	4.27	0.29
Management and professional	19.37	0.98
Technical and para-professional	13.37	0.91
Trade and apprenticeship	13.24	1.58
Clerical, sales	7.09	0.54
Plant and machinery	3.87	0.28
Other	3.53	0.24
All fields	81.01	5.92

(a) The total time receiving formal training averaged over the total number of employees. (b) Formal training was classified according to the main content of the course or program.



TABLE 16. PERCENTAGE OF EMPLOYERS REPORTING TRAINING — ALL EMPLOYERS, PRIVATE SECTOR, FIELD OF TRAINING BY SIZE, JULY TO SEPTEMBER 1990

Field of training(a)	1 - 19 employees	20 - 99 employees	100 or more employees	Total
per cent of employers				
Induction	1.8	15.7	48.5	3.8
General supervision	*2.3	11.4	40.5	3.8
General computing	3.5	21.1	57.2	6.0
Health and safety	*1.3	13.4	48.7	3.2
Management and professional	*3.3	25.7	63.4	6.4
Technical and para-professional	*0.9	12.0	30.6	2.4
Trade and apprenticeship	9.0	21.3	44.2	10.8
Clerical, sales	2.6	18.2	50.0	4.9
Plant and machinery	*0.5	6.6	22.3	1.5
Other	*1.2	*5.8	22.0	*2.0
<b>Any field(b)</b>	<b>18.3</b>	<b>62.8</b>	<b>91.9</b>	<b>23.6</b>

(a) Formal training was classified according to the main content of the course or program. (b) Percentage of employers reporting training in at least one field.



TABLE 17. AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS,  
STATES AND TERRITORIES, JULY TO SEPTEMBER 1990

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Total training expenditure	2.6	2.6	2.4	2.4	2.4	2.3	3.7	3.9	2.6
	per cent of gross wages and salaries								
Total training expenditure per employee	170.3	160.3	144.2	149.5	157.1	133.8	286.7	243.7	162.8
	dollars								
Training hours per employee	6.0	5.9	5.7	5.8	5.3	*8.3	8.9	6.4	5.9
	hours								
Employers reporting training expenditure(b)	23.9	20.5	23.9	*29.3	22.0	*60.4	*23.7	*32.2	24.4
	per cent of employers								

(b) The percentage of employers is based on the statistical unit for the survey (see Explanatory Notes, paragraphs 8 and 9).

TABLE 18. AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS,  
STATES AND TERRITORIES BY SECTOR, JULY TO SEPTEMBER 1990

	PRIVATE	PUBLIC	TOTAL
	per cent of gross wages and salaries		
New South Wales	2.3	3.1	2.6
Victoria	2.2	3.5	2.6
Queensland	2.0	3.2	2.4
South Australia	2.0	2.9	2.4
Western Australia	2.4	2.6	2.4
Tasmania	2.3	2.1	2.3
Northern Territory	*3.4	4.1	3.7
Australian Capital Territory	2.9	4.7	3.9
Australia	2.2	3.2	2.6



## EXPLANATORY NOTES

### Introduction

This publication contains results of the 1990 Training Expenditure Survey (TES). The survey collected information on employers' expenditure in providing formal training for their employees during the period 1 July to 30 September 1990 (September quarter). This survey follows a smaller TES that covered the September quarter 1989.

2. Training expenditure included wages and salaries and other expenditure on formal training. The estimates of expenditure on training are expressed primarily as percentages of the employers' total gross wages and salaries expenditure for the September quarter. In addition, statistics are presented as expenditure in dollars and hours per employee and expenditure per training hour.

3. Tables 2 and 4 present estimates produced only from those employers who reported some training expenditure for the period, i.e. those who provided or supported training of their employees in some way. The survey did not collect information on the number of employees who received training.

4. Tables 3, 4, 9 and 10 present estimates of training expenditure by employer payroll size. A payroll size of \$50,000 has been used which is the equivalent to total gross wages and salaries of \$200,000 for a full year.

### Scope of the survey

5. The survey covered employers in all States and Territories and all industries except for employers primarily engaged in agriculture, forestry, fishing and hunting; private households employing staff; overseas embassies, consulates, etc.; and the Australian permanent defence forces.

### Survey design

6. A sample of approximately 6,000 employers was selected from the ABS register of businesses for the 1990 TES. The sample was stratified by sector, detailed industry and employer size, and was optimally allocated to ensure adequate representation in each of these areas. For the 1989 TES a sample of approximately 2,000 employers was selected. The 1989 sample was stratified by sector, broad industry and employer size and was also optimally allocated. In order to achieve some comparability between 1989 and 1990 results, approximately 1000 employers were common to both surveys.

7. Both surveys were designed to produce accurate estimates of total training expenditure at the national level. The 1989 TES was designed to produce broad level industry estimates whereas the 1990 TES was designed to produce accurate detailed industry results.

8. The statistical unit for the survey comprised all activities of an enterprise in a particular State or Territory. Each statistical unit was classified to an industry which reflected the predominant activity of the enterprise in the State or Territory. In a small number of cases where an

enterprise had a significant number of employees in more than one industry, a separate statistical unit was created for each industry. In addition, a review of the ABS business unit definitions is presently in progress. This means that some statistical units will be based on the concept of the management unit rather than the enterprise. Management units have been developed in close consultation with employers to better reflect the organisational and accounting structures of business organisations. This change does not affect the quality of the statistics produced from this survey, but it does enable employers to more easily compile and report survey data.

9. The statistical units are referred to as employers in this publication.

### Survey data

10. The survey collected data on employers' formal training expenditure. Formal training is defined as training activities which have a structured plan and format designed to develop job related skills and competence.

11. Despite the importance of informal training in improving job skills, informal training has been excluded from the scope of the survey because of the considerable difficulties associated with its measurement. However, if on-the-job training is structured and so fits the definition of formal training it is included in the survey.

12. The TES collected data on gross wages and salaries for employees' time receiving and providing formal training, the number of hours receiving training, fees and other training expenditure. Total number of employees and their gross wages and salaries for the quarter was also collected.

13. The survey covered all expenses incurred by employers in training their own employees, including all full-time, part-time, casual and temporary employees. The survey excludes the cost of training volunteers, customers or dealers etc. since they are not defined as employees.

14. The survey collected direct costs associated with training time. It excluded the replacement costs of employees on training courses. For example, if a bank teller undertook a training course and his/her normal work was done by a replacement teller, then the training cost collected in the survey was the bank teller's gross salary for time attending the training course, the cost of the replacement teller was excluded. The survey excluded training undertaken outside normal working hours at no expense to the employer.

15. Data in the survey were recorded on a cash basis. Annual fees (such as enrolment fees for educational institutions) were only included if they were paid in the September quarter. They were not apportioned.

### Survey methodology

16. A three month reference period was used for the survey in preference to a full year reference period in order to minimise the inconvenience of the survey to



respondents, to enable high quality data to be reported, and to satisfy the demand for timely results.

17. It was recognised that in adopting the September quarter as the three month reference period, seasonal influences may affect the results since the chosen period may not have been a typical period for all employers training in 1990. In developing the TES, investigation of the representativeness of the September quarter was undertaken. This was also targetted during analysis of the 1989 survey and it was found that the September quarter was representative of other quarters during 1989. The introduction of the Training Guarantee Act from 1 July 1990 may influence the extent to which the September quarter is representative of other quarters in 1990.

18. Employers were notified of their selection prior to the commencement of the survey reference period to ensure that they could provide accurate data. They were provided with a Guide containing: a specimen questionnaire; explanations of the concepts and definitions; and some worksheets to assist in the recording of data during the reference period. ABS officers discussed the requirements of the survey in detail with many employers to assist them in preparing for the survey.

#### Reliability of estimates

19. Estimates are subject to sampling and non-sampling errors. These concepts are explained in the Technical Note.

20. A Post Enumeration Survey was conducted to assess non-sampling errors and to review the survey questionnaire and methodology. The Post Enumeration Survey showed that employers reported accurate data overall.

21. The reliability of estimates is also affected by the level of response to a survey. Employers responded favourably to the TES, with 99 per cent providing completed survey questionnaires.

#### Related publications

22. Background information on this survey discussing concepts, methodology and coverage of the TES is provided in *Information Paper: The Development of the Employer Training Expenditure Survey* (6355.0) issued on 24 October 1989.

23. Users may also wish to refer to the following publications which are available on request:

*Employer Training Expenditure, Australia, July to September 1989* (6353.0) - This publication contains results of the 1989 Training Expenditure Survey.

*How Workers Get Their Training, Australia, March to July 1989* (6278.0) - This publication contains estimates of persons who had worked as a wage and salary earner in the previous twelve months classified by educational attainment, work history, qualifications needed to obtain a job, training courses and on-the-job training undertaken in the last twelve months. Other details available include

demographic and labour force characteristics such as age, gender and employment status.

*The Labour Force, Australia* (6203.0) — issued monthly

*Employed Wage and Salary Earners* (6248.0) — issued quarterly

*Major Labour Costs, Australia* (6348.0) — issued annually

*Distribution and Composition of Employee, Earnings and Hours, Australia* (6306.0) — issued annually

*Labour Statistics, Australia* (6101.0) — issued annually

*Transition From Education to Work, Australia* (6227.0) — issued annually

*Labour Force Status and Educational Attainment, Australia* (6325.0) — issued annually

*Labour Force Status and Educational Attendance, Australia* (6272.0) — issued annually

*A Guide to Labour Statistics* (6102.0) — issued 10 February 1986

24. Current publications produced by the ABS are listed in the *Catalogue of Publications and Products, Australia* (1101.0). The ABS also issues, on Tuesdays and Fridays, a *Publications Advice* (1105.0) which lists publications to be released within the next few days. The Catalogue and Publications Advice are available from any ABS office.

#### Symbols and other usages

- \* subject to sampling variability too high for most practical purposes. See *Technical Note*.
- .. not applicable
- n.p. not available for separate publication (but included in totals where applicable)

25. Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

#### Unpublished statistics

26. As well as the statistics included in this and related publications, the ABS may have other relevant unpublished data available. Inquiries should be directed to the contact person whose name appears at the front of this publication.

27. Subject to reliability and confidentiality constraints, unpublished estimates from the Training Expenditure Survey may be available for the following data items:

- Number of employees
- Employee gross wages and salaries
- Formal Training — in-house; external
  - Induction
  - General supervisory
  - General computing
  - Health and safety
  - Management and professional
  - Technical and para-professional



Trade and apprenticeship  
 Clerical, sales and personal service  
 Plant and machinery operating/driving and  
 labouring  
 Other

- Training personnel gross wages and salaries
- Fees paid to consultants for conducting in-house courses
- Fees paid for external courses
- Other training expenditure — in-house; external
  - Equipment
  - Travel, accommodation and meals for trainers and trainees to attend courses
  - Cost of training rooms
  - Payments to industry training bodies
  - Other expenditure
- Number of apprentices
- Number of Australian Traineeship System employees
- Training subsidies received from government sources
- Payments received from other employers.

Estimates for any combination of these data items may be available.

28. Estimates of the data items can be readily provided for the following classifications.

- Sector
- Employer size
- Industry
- State
- Payroll size
- All employers; Employers reporting training expenditure.

Additional classifications based on any of the above data items can also be produced.

29. The following measures are available:

- Training expenditure expressed as a percentage of total gross wages and salaries
- Training expenditure per employee
- Training hours per employee
- Training expenditure per training hour
- Total training expenditure.



## TECHNICAL NOTE

Estimates in this publication are subject to sampling variability because they are based on information relating to a sample of employers rather than a full enumeration, (i.e. they may differ from figures that would have been produced if the information had been obtained from all employers). This difference, called sampling error, should not be confused with inaccuracy that may occur because of imperfections in reporting by respondents; such inaccuracy is referred to as non-sampling error and may occur in any enumeration, whether it be a full count or sample.

Efforts have been made to reduce the non-sampling error by careful design of questionnaires and detailed checking of completed returns. In order to minimise under-enumeration, all employers in the survey were advised of their selection prior to the commencement of the reference period and encouraged to keep records of expenditure during the reference period, rather than relying on recall at the conclusion of the reference period.

The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the standard error which indicates the degree to which an estimate may vary from the value that would have been obtained from a full enumeration (the 'true' figure). There are about two chances in three that a sample estimate differs from the 'true' value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors.

If the standard error of an estimate is large relative to the size of the estimate, the usefulness of that estimate is seriously impaired. For the tables in this publication, estimates with standard errors greater than 25 per cent of the estimate have been labelled with an asterisk.

Standard errors for some of the different measures of training expenditure classified by sector and employer size are shown in Table B1. Table B2 contains standard errors for estimates of training expenditure expressed as a percentage of gross wages and salaries classified by sector and industry.

An example of the use of standard error follows. The estimate of total training expenditure expressed as a percentage of gross wages and salaries (GWS) for the private sector, employer size of 1-19 employees is 1.35% (see Table 1). From Table B1 this estimate has a relative standard error of 11.9%, and thus an absolute standard error of  $(0.119 \times 1.35)\%$  of GWS, or 0.16% of GWS. Hence, the estimate minus one standard error is  $1.35 - 0.16$ , or 1.19% of GWS, and the estimate plus one standard error is  $1.35 + 0.16$ , or 1.51% of GWS. Similarly, the estimate minus and plus two standard errors is 1.03% and 1.67% respectively. There would, therefore be about two chances in three that a full enumeration would have given a figure in the range 1.19% to 1.51% and about nineteen chances in twenty that it would be in the range 1.03% to 1.67%. This is shown in Diagram B1.

**DIAGRAM B1. AVERAGE TRAINING EXPENDITURE FOR PRIVATE SECTOR EMPLOYERS WITH 1 - 19 EMPLOYEES**

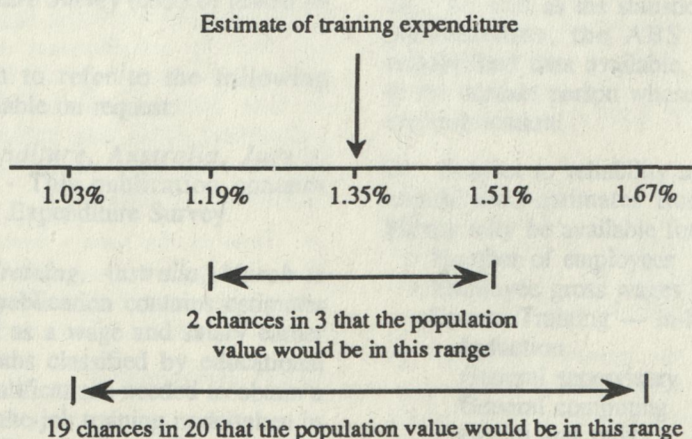




TABLE B1. RELATIVE STANDARD ERRORS FOR AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS, SECTOR BY EMPLOYER SIZE, JULY TO SEPTEMBER 1990

	1 - 19 employees	20 - 99 employees	100 or more employees	Total
PRIVATE				
	relative standard error %			
Total training expenditure as a percentage of gross wages and salaries	11.9	9.7	2.3	3.2
Total training expenditure per employee	12.1	12.4	2.5	3.7
Training hours per employee	14.4	11.1	2.9	4.5
Percentage of employers reporting training expenditure	11.3	10.5	1.7	8.2
Total training expenditure	12.4	9.9	2.7	3.2
PUBLIC				
	relative standard error %			
Total training expenditure as a percentage of gross wages and salaries	31.0	21.0	3.1	3.0
Total training expenditure per employee	26.7	19.9	3.0	2.9
Training hours per employee	29.6	19.4	3.0	2.9
Percentage of employers reporting training expenditure	30.8	4.4	0.0	9.4
Total training expenditure	30.6	29.4	3.0	3.0
TOTAL				
	relative standard error %			
Total training expenditure as a percentage of gross wages and salaries	11.8	9.2	1.9	2.2
Total training expenditure per employee	12.0	11.6	1.9	2.6
Training hours per employee	14.3	10.4	2.1	3.0
Percentage of employers reporting training expenditure	11.1	10.0	1.3	7.9
Total training expenditure	12.2	9.5	2.1	2.2



TABLE B2. RELATIVE STANDARD ERRORS FOR AVERAGE TRAINING EXPENDITURE — ALL EMPLOYERS  
SECTOR BY INDUSTRY, JULY TO SEPTEMBER 1990

Industry	Private			Total		
	In-house	External	Total	In-house	External	Total
relative standard error %						
Mining	7.7	13.2	6.3	7.1	13.1	6.0
Manufacturing	5.3	4.4	3.9	4.9	4.2	3.7
Food, beverages and tobacco	10.1	10.5	9.6	9.6	10.1	9.1
Textiles, clothing and footwear	8.7	10.7	7.3	8.6	10.5	7.2
Wood, wood products	31.0	19.6	21.7	30.3	19.3	21.5
Paper, paper products	24.4	19.2	14.1	23.8	18.4	13.6
Chemical, petroleum and coal products	14.1	14.7	10.6	13.6	13.8	10.2
Non metallic mineral products	9.7	21.1	14.1	9.7	21.1	14.1
Basic metal products	4.0	5.2	3.5	4.0	5.1	3.5
Fabricated metal, machinery and equipment	10.1	9.7	7.8	9.3	9.4	7.4
Transport equipment	10.6	6.7	6.7	7.3	5.4	4.8
Miscellaneous manufacturing	26.3	25.3	20.7	26.3	25.3	20.7
Electricity, gas and water	1.0	1.0	1.0	7.5	13.0	2.8
Construction	9.1	16.8	11.6	11.3	13.9	9.5
Non building construction	11.6	16.3	11.5	5.4	6.5	4.7
Other construction	10.4	17.5	12.3	19.5	15.0	11.9
Wholesale and retail trade	7.1	12.0	7.1	7.1	12.0	7.1
Wholesale trade	6.9	13.3	7.2	6.9	13.3	7.2
Retail trade	12.7	20.8	12.3	12.7	20.7	12.3
Transport and storage	13.4	6.3	9.8	5.3	4.1	4.3
Air transport	6.9	8.2	6.2	1.5	9.1	1.4
Other transport and storage	19.1	7.1	12.8	7.8	4.2	5.7
Communication	15.6	3.4	8.3	1.2	1.6	1.3
Finance, property and business services	7.2	12.5	7.0	7.5	12.1	7.4
Finance	12.6	16.2	10.7	9.5	13.2	8.2
Insurance	12.4	29.8	17.8	11.9	29.0	17.1
Property and business services	9.2	18.5	10.1	10.0	18.7	11.1
Public administration and defence	..	..	..	8.9	10.1	6.6
Community services	14.8	12.7	12.4	5.5	8.3	5.2
Health	21.8	19.4	20.5	12.1	16.1	12.8
Other community services	16.0	10.7	10.2	6.2	9.1	4.9
Recreational, personal and other services	18.4	19.4	16.8	18.3	18.5	14.6
Entertainment and recreation	22.6	25.8	20.9	31.0	25.5	24.0
Restaurants, hotels and clubs	21.0	30.0	22.6	20.6	29.6	22.2
Personal services	38.2	20.9	16.8	38.3	20.7	17.0
All industries	3.5	4.6	3.2	2.3	3.6	2.2



## GLOSSARY

*All employers.* Estimates are based on all statistical units who reported at least one employee.

*Australian Traineeship System.* An employment scheme set up by the Commonwealth Government as a means of entry into non-trade employment for young people.

*Clerical, office, sales, and personal service training.* Programs that qualify or upgrade clerical, secretarial and receptionist skills, sales skills (e.g. insurance, real estate), bar and waiting skills and personal service skills (e.g. child care assistance, enrolled nursing, dental nursing, tourist guidance). Excluded is word processing, computer operations and data processing which are included in *General computing skills training*.

*Conferences and seminars.* The survey included training costs associated with conferences and seminars where the primary objective was training.

*Employees.* All persons who received a wage or salary during the survey reference period. All permanent, temporary, casual, managerial and executive employees are included. Part-time and casual employees who may have worked only a few hours during the reference period are included. Employees who commenced or terminated employment during the reference period are included. Employees on paid leave and those employees on workers' compensation who continue to be paid through the employer's payroll are also included. Excluded are employees who were not paid during the survey reference period, employees on leave without pay, on strike or stood down without pay for the whole of the reference period.

*Employees, number of.* The number of employees of an organisation who received pay for any part of the last pay period ending on or before 17 August 1990.

*Employees' wages and salaries for time receiving training.* Gross wages and salaries for the number of hours spent by employees receiving formal training including paid travel time. Amounts paid to employees who commenced or terminated employment during the survey reference period are also included.

*Employer size.* To produce statistics for various employer sizes, each statistical unit is allocated a size classification based on the number of employees reported. Refer to the Explanatory Notes paragraphs 8 and 9 for an explanation of the statistical unit.

*Employer payroll size.* All employers in the survey have been classified to payroll size according to the total amount paid to employees as gross wages and salaries during the survey reference period.

*Employers reporting training expenditure.* Estimates are derived from those statistical units which reported some training expenditure during the reference period.

*Equipment, training.* Payments for the purchase or hire of equipment for which the primary purpose is training. Payments for repairs and maintenance are also included. Depreciation on training equipment is excluded.

*External formal training.* Organised and conducted by training or educational institutions, agencies or consultants e.g. College of Technical And Further Education courses, university studies assistance.

*Fees paid for In-house and External Courses.* Fees paid to consultants, training companies, educational and training institutions for designing, conducting and evaluating training courses (e.g. Colleges of Technical And Further Education, Higher Education establishments, Business Colleges, Skills Centres, Industry Training Institutes). Studies assistance paid to employees for attending courses. This includes scholarships, bursaries, reimbursements and book allowances paid to employees. All other costs in the full course fees (e.g. accommodation) are also included.

*Field of training.* The field of training classification used for the survey is based on the main content of each course/program. Each field appears as a separate entry in this glossary.

*Formal training.* All training activities which have a structured plan and format designed to develop job related skills and competence are defined as formal training. It consists of periods of instruction or a combination of instruction and monitored practical work. The instruction can take the form of workshops, lectures, tutorials, training seminars, audio-visual presentations, demonstration sessions or monitored self-paced training packages.

*General computing skills training.* Programs that provide skills in the use of micro, mini and mainframe computers, programming and use of software packages (e.g. spreadsheets, micro databases, desk-top publishing), word processing, computer operations and data processing. Training designed for computer professionals is included under *Management and professional training*.

*General supervisory training.* Programs which qualify or upgrade skills in supervising staff.

*Gross wages and salaries.* Payments to all employees before tax and other items such as superannuation are deducted. Payments comprise ordinary time and overtime earnings; over-award payments; penalty payments, shift and other remunerative allowances; commissions and retainers; bonuses and similar payments; payments under incentive or piecework; payments under profit-sharing schemes; leave loadings; annual and long service leave payments; sick leave payments; advance and retrospective payments; salaries and fees paid to company directors who are paid a salary, members of boards, committees, commissions, councils, etc.; amounts paid to employees



on workers' compensation which are not covered by insurance, i.e. 'make-up' pay. Excluded are severance, termination and redundancy payments.

*Health and safety training.* Training in general health, fitness and safety.

*In-house formal training.* Organised by employers primarily for their own employees, using the employers' own staff, or consultants e.g. where a consultant designs a program specifically for the employer. Note that in-house training could be conducted at an off-site location.

*Induction training.* New employee orientation.

*Industry.* Industry is classified according to the *Australian Standard Industrial Classification (ASIC) 1983 Edition (1201.0)*.

*Informal training.* Is excluded from the scope of this survey, e.g. unstructured on-the-job training, being shown how to do things as the need arises, learning by doing a job.

*Management and professional training.* Programs that qualify or upgrade skills in organising and directing the major functions of an organisation, in specialist management (e.g. financial, marketing) or professional occupations (i.e. involving at least a three year degree/diploma).

*Net training expenditure.* Total training expenditure minus subsidies received for training.

*Other expenditure on formal training.* The total of expenditure on training equipment, travel, accommodation, meals, consumables, training rooms and payments to industry training bodies.

*Other training.* Formal training which can not be classified to the fields of training which have been described elsewhere. For example, training in literacy, numeracy, language and interpersonal skills (except where part of another field of training), trade union training.

*Paid time receiving training.* Refers to the reported hours of formal training received by all employees during the reference period. This includes travelling time.

*Payments received from other employers.* Payments received for other employees to attend in-house courses. Includes payments received from individuals as well as other employers.

*Payments to industry training bodies.* Payments include donations and membership fees paid to educational institutions, training centres or Industry Training Committees and the purchase of equipment and materials donated to training institutions. Fees for training courses are excluded.

*Percentage of gross wages and salaries.* Estimates of training expenditure are expressed as a percentage of employers' total gross wages and salaries for the reference period. Training expenditure includes both wages and salaries and other expenditure.

*Plant and machinery operating and driving, labouring and related training.* Programs that qualify or upgrade skills in driving road or rail transport, operation of plant and machinery (e.g. forklift driving, cranes, drilling plants, chemical plants, metal presses, packaging machines), labouring and other assistance tasks (e.g. cleaning, security).

*Public trading enterprises.* Public sector enterprises predominantly engaged in the production of goods and services with an intention of maximising profits and financial returns with most operating costs being derived from trading activities.

*Reference period.* The survey collected employers' training expenditure during the period 1 July to 30 September 1990. The reference period for reporting all employees' total gross wages and salaries was all pay periods ending during the above period. The reference period for reporting the number of employees was the last pay period ending on or before 17 August 1990. All employees who received pay during that pay period were included.

*Sector.* All statistical units are classified to the public or private sector. The public sector includes local government authorities and all government departments, agencies and authorities created by, or reporting to the Commonwealth and State Parliaments. The remaining statistical units are classified as private sector.

*September quarter.* The period 1 July to 30 September.

*Subsidies and grants received from government sources.* These are grants or subsidies received from the government for formal training of employees (e.g. CRAFT, the proportion of Jobstart relating to formal training etc). Subsidies received outside the reference period are excluded.

*Subsidies received for training.* The sum of subsidies and grants received from government sources and payments received from other organisations for allowing their employees to attend in-house courses.

*Technical and para-professional training.* Programs that qualify or upgrade skills in the work performed by technical officers and technicians in the medical, science and engineering fields (e.g. research, quality control, laboratory tests and drafting), air and sea technical work (e.g. piloting, air traffic control), registered nursing, community work, police work and child care co-ordination. Excluded is personal service training such as child care assistance, enrolled nurse and dental nurse training which are included in *Clerical, office, sales, and personal service training*.



*Total training expenditure.* The sum of employers' expenditure for employees' gross wages and salaries for time receiving and providing formal training, fees paid to consultants and institutions and other expenditure on formal training during the period 1 July to 30 September 1990.

*Trade and apprenticeship training.* Programs that qualify or upgrade skills in trades. For example in carpentry, bricklaying, plastering, plumbing, tiling; vehicle mechanics, panel beating, printing; toolmaking, metal fitting, aircraft maintenance; electrical fitting, electronics, radio and television services, computer services (hardware); butchery, baking, cooking, cheesemaking.

*Trainers' costs, fees paid for In-house and External courses.* See *Fees paid for In-house and External courses*.

*Trainers' costs, (including fees).* Employees' wages and salaries for time providing training plus fees paid for In-house and External courses.

*Trainers' costs, wages and salaries for time providing training.* See *Wages and salaries for time providing training*.

*Training expenditure per employee.* Estimated training expenditure divided by the estimated total number of employees. The survey did not collect information on the number of employees receiving training.

*Training expenditure per training hour.* Estimated total training expenditure divided by the estimated total hours of training.

*Training hours per employee.* The estimated total number of hours of training received divided by the estimated total number of employees. The survey did not collect information on the number of employees receiving training.

*Training rooms.* Costs include the rent, lease and purchase of training rooms or floor space. Also included are training room overheads for floor space owned by the organisation (eg cleaning, electricity, maintenance etc). Depreciation on training rooms is excluded.

*Travel, accommodation and meals.* Payments for trainers and trainees to attend courses including fares (air, taxi, car hire etc), travel allowances, incidental travel expenses, accommodation, meals, morning and afternoon tea and kilometre allowances.

*Wages and salaries for time providing training.* The gross wages and salaries for the time spent by any employee providing formal training for employees of the organisation. This includes the development, delivery, evaluation and administration of formal training. Also included is paid time and wages of support staff for time spent on activities related to the provision of training.

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